

Acadia National Park, Accuracy Assessment Metadata

Identification_Information:

Citation:

Citation_Information:

Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603

Publication_Date: 200310

Title: Accuracy Assessment Site Spatial Database for the Acadia National Park Vegetation Mapping Project

Edition: Final

Geospatial_Data_Presentation_Form: map

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Acadia NP Vegetation Mapping Project

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: This spatial database was prepared by the U.S. Geological Survey Upper Midwest Environmental Sciences Center for the USGS-NPS Vegetation Mapping Program. The Nature Conservancy, NatureServe, and Maine Natural Areas Program provided ecological and vegetation classification support.

Online_Linkage: <http://biology.usgs.gov/npsveg/acad/index.html#accuracy_assessment_info>

Description:

Abstract: The U.S. Geological Survey Upper Midwest Environmental Sciences Center (UMESC) has produced a vegetation spatial database coverage (vegetation map) for the Acadia National Park Vegetation Mapping Project, USGS-NPS Vegetation Mapping Program (VMP). Thematic accuracy requirements of the VMP specify 80% accuracy for each map class (theme) that represents National Vegetation Classification System (NVCS) associations (vegetation communities). The UMESC selected 728 field sites, all within Acadia National Park fee and easement lands, for a thematic accuracy assessment (AA) to the vegetation map. The sites were randomly generated, stratified to map class themes that represent NVCS natural/semi-natural vegetation communities using VMP standards. Certain modifications to the process were necessary to accommodate logistical challenges. Local botanists collected field data for 724 of the sites during the 1999 field season. Thematic AA used 688 sites. Sites not used for the analysis were due to the elimination of an entire map class because of irreconcilable classification concepts (19 sites), or to other reasons including unmanageable error with GPS coordinate, duplicate site location, and incomplete field data (17 sites). Regardless of their use in the analysis, all 724 AA sites collected are represented in the Accuracy Assessment Site Spatial Database.

Purpose: The Accuracy Assessment Spatial Database provides spatially referenced locations that were selected for field assessment to support a statistical analysis of a thematic AA of the vegetation spatial database coverage for the Acadia National Park Vegetation Mapping Project, USGS-NPS Vegetation Mapping Program (see Cross Reference at the end of this section for more information on the vegetation map, the Project, and the VMP). This metadata report supports not only the Accuracy Assessment Site Spatial Database coverage, but also an overview of AA methods and analysis. For more documentation on the analysis methods and results, including the error contingency matrix, see the Project's technical report.

Supplemental_Information: The Accuracy Assessment Site Spatial Database is a geo-spatial point coverage. Item information within the spatial point coverage includes: ArcInfo default items, AA field site number, and X-Y coordinate (Easting-Northing) projected in Universal Transverse Mercator, Zone 19, with datum in North American Datum of 1983. Complete data for each AA site is preserved on hard copy data sheets, and digitally within the Project's PLOTS database. The spatial database is available, both in ArcInfo Export (.e00) and Shapefile formats, on the Project's CD-ROM. --- The UMESC performed the comparison analysis of the field AA data to the vegetation map. Based on results of this thematic accuracy assessment, the estimated overall accuracy for map classes representing NVCS natural/semi-natural vegetation communities is 80%, with a kappa index of 79%.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 200310

Currentness_Reference: publication date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None planned

Spatial_Domain:

Description_of_Geographic_Extent: Acadia National Park and environs

Bounding_Coordinates:

West_Bounding_Coordinate: -68.65711269

East_Bounding_Coordinate: -68.04429837

North_Bounding_Coordinate: 44.42249798

South_Bounding_Coordinate: 44.0118776

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: Digital Spatial Database

Theme_Keyword: Accuracy Assessment

Theme_Keyword: Vegetation

Theme_Keyword: Vegetation Map

Theme_Keyword: National Vegetation Classification Standard

Theme_Keyword: National Vegetation Classification System

Theme_Keyword: U.S. National Vegetation Classification

Theme_Keyword: International Vegetation Classification

Theme_Keyword: NVCS

Theme_Keyword: USNVC

Theme_Keyword: National Park

Theme_Keyword: GPS

Theme_Keyword: GIS

Theme_Keyword: Field Data

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Acadia National Park

Place_Keyword: Bar Harbor

Place_Keyword: Mount Desert Island

Place_Keyword: Schoodic Peninsula

Place_Keyword: Isle au Haut

Place_Keyword: Hancock County

Place_Keyword: Maine

Place_Keyword: USA

Taxonomy:

Keywords/Taxon:

Taxonomic_Keyword_Thesaurus: None

Taxonomic_Keywords: National Vegetation Classification Standard

Taxonomic_Keywords: National Vegetation Classification System

Taxonomic_Keywords: U.S. National Vegetation Classification

Taxonomic_Keywords: International Vegetation Classification

Taxonomic_Keywords: Plant Community

Taxonomic_Keywords: Association

Taxonomic_Keywords: Alliance

Taxonomic_Keywords: NVCS

Taxonomic_Keywords: USNVC

Taxonomic_System:

Classification_System/Authority:

Classification_System_Citation:

Citation_Information:

Originator: US Department of Agriculture, Natural Resources Conservation Service

Publication_Date: 199612

Title: The PLANTS Database (1996)

Geospatial_Data_Presentation_Form: database

Series_Information:

Series_Name: The Plants Database

Issue_Identification: December 1996

Publication_Information:

Publication_Place: National Plant Data Center, Baton Rouge, Louisiana

Publisher: USDA, NRCS

Other_Citation_Details: The Plants Database as of December 1996. USDA Natural Resources Conservation Service. Web address: <<http://plants.usda.gov/>>. Version used in the PLOTS Database System (1997).

Online_Linkage: <<http://plants.usda.gov/>>

Classification_System_Modifications: This is the version of The PLANTS Database that is used in the The Nature Conservancy's PLOTS Database System (Version 1.1, 1997).

Taxonomic_Procedures: Vegetation field sampling data were entered into a modified version of The PLOTS Database (The Nature Conservancy 1997) at the Maine Natural Areas Program, which (after checking the data for accuracy) was used to produce plot vegetation summaries and associated environmental information. To analyze vegetation patterns and classify types, we used Detrended Correspondence Analysis (DCA), Two-Way Indicator Species Analysis (TWINSpan), and Indicator Species Analysis (ISA) within PC-ORD. An ordination technique, DCA arranges samples along derived axes according to compositional similarity. A divisive polythetic technique, TWINSpan classifies samples and species, using a similar algorithm to that for DCA. The ISA identifies indicator species for user-defined groups of samples (in this case vegetation types) by calculating an indicator value based on a species' abundance and frequency in each of several defined groups, then using a Monte Carlo test to determine those that are significantly allied with one group as opposed to randomly distributed. Further references for all techniques can be found in the PC-ORD documentation (McCune and Mefford 1999). Whereas vegetation types were being developed and refined from the sample data, reference to the NVCS (Anderson et al. 1998) had to be maintained. The required consultations with TNC regional ecologists to (1) determine if an existing NVCS type fit the Acadia type; (2) if no existing NVCS type matched, whether it made sense to refine an existing type or to create a new type; and (3) if a new type was indicated, to name and describe that type.

Taxonomic_Classification:

Taxon_Rank_Name: Kingdom

Taxon_Rank_Value: Plantae

Access_Constraints: GIS software

Use_Constraints: 1) Those using the database should understand the data and determine for themselves the fitness of the data prior to use. 2) For publication and dissemination, citations or credit should be given to the U.S. Geological Survey Center for Biological Informatics, the National Park Service, the U.S. Geological Survey Upper Midwest Environmental Sciences Center, The Nature Conservancy, NatureServe, and Maine Natural Areas Program.

Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator

Contact_Address:

Address_Type: mailing and physical address

Address: U.S. Geological Survey, Center for Biological Informatics, MS 302, Room 8000, Building 810, Denver Federal Center

City: Denver

State_or_Province: Colorado

Postal_Code: 80225

Country: USA

Contact_Voice_Telephone: (303) 202-4220

Contact_Facsimile_Telephone: (303) 202-4219

Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov

Browse_Graphic:

Browse_Graphic_File_Name: <<http://biology.usgs.gov/npsveg/acad/images/acadaa.gif>>

Browse_Graphic_File_Description: Locations of accuracy assessment sites; low resolution for web browsing.

Browse_Graphic_File_Type: GIF

Data_Set_Credit: The USGS Upper Midwest Environmental Sciences Center, The Nature Conservancy, NatureServe, and Maine Natural Areas Program.

Native_Data_Set_Environment: UNIX-ARC/INFO

Cross_Reference:

Citation_Information:

Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center

Publication_Date: 200310

Title: Acadia National Park Vegetation Mapping Project

Geospatial_Data_Presentation_Form: report

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Acadia NP Vegetation Mapping Project

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: The Acadia National Park Vegetation Mapping Project is a product of the USGS-NPS Vegetation Mapping Program (VMP), which is managed by the U.S. Geological Survey (USGS) Center for Biological Informatics (for more information on VMP, see larger work citation below). The mapping project is one of few listed as pilot, with purpose to test and explore protocols in mapping and classifying vegetation for the VMP. --- The project began with a planning meeting March 1997 at Acadia National Park (NP). Spring photography was collected May 1997, the baseline data for subsequent field efforts and mapping. Vegetation samples were collected over 3 field seasons (1997-1999), with the majority collected during the first 2 years. Photointerpretation and subsequent digital automation transpired during 1998 & 1999, with supporting fieldwork during the 1997 & 1998 field seasons. The first draft of the vegetation map was completed and distributed January 2000. Vegetation data analyses for vegetation classification development were performed during 1999 & 2000. Local vegetation community descriptions were completed 2001. Accuracy assessment field data was collected during the 1999 field season. The data was applied to the vegetation map with concluding results spring 2003. --- The USGS Upper Midwest Environmental Sciences Center (UMESC) provided project coordination and compiled all project data for distribution. The UMESC produced all spatial database sets: vegetation map, observation points, vegetation sample plots, accuracy assessment sites, and various other supporting coverages. The UMESC also performed the accuracy assessment of the vegetation spatial database coverage, prepared final project documentation discussing methods and results, and provided metadata reports. The Nature Conservancy, NatureServe, and Maine Natural Areas Program provided ecological and vegetation support, vegetation field sampling (plot samples and accuracy assessment), data entry, vegetation analysis, methods and results documentation, and vegetation classification development (including vegetation community descriptions) based on the Federal Geographic Data Committee's National Vegetation Classification Standard with floristic level types defined by NatureServe's International Vegetation Classification (association and alliance classes of the National Vegetation Classification System). Acadia NP provided staff to assist in field efforts including GPS navigation and collection, lodging, boat transportation, and knowledge of the local area. --- The Project provides a technical report with details regarding methods and results. Metadata documents are provided for the vegetation spatial database coverage (vegetation map), field reconnaissance observations, vegetation field plots (samples), accuracy assessment, aerial photography, and project boundaries.

Online_Linkage: <<http://biology.usgs.gov/npsveg/acad/>>

Larger_Work_Citation:

Citation_Information:

Originator: U.S. Geological Survey, Center for Biological Information

Publication_Date: 200304

Title: USGS-NPS Vegetation Mapping Program (May 2003)

Geospatial_Data_Presentation_Form: online

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Overview

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: Overview of USGS - NPS Vegetation Mapping Program (taken from <http://biology.usgs.gov/npsveg/overview.html>, May 2003): The USGS-NPS Vegetation Mapping Program is a cooperative effort by the U.S. Geological Survey (USGS) and the National Park Service (NPS) to classify, describe, and map vegetation communities in more than 270 national park units across the United States. This landmark program is both the first to provide national-scale descriptions of vegetation for a federal agency and the first to create national vegetation standards for its data products. Its goal is to meet specific information needs identified by the National Park Service. --- The vegetation mapping program is an important part of the NPS Inventory and Monitoring Program, a long-term effort to develop baseline data for all national park units that have a natural resource component. It is managed by the USGS Center for Biological Informatics, a unique information center designed to help scientists, land managers, the public, and others locate and apply biological information. --- Program activities are based on peer-reviewed, objective science. Comprehensive vegetation information is provided at national and regional levels, while also serving local management needs of individual parks. Stringent quality control procedures ensure that products are accurate and consistent for initial inventory purposes and replicable for monitoring purposes. The spatially enabled digital products produced by the program are available on the World Wide Web. --- Program scientists have developed data collection procedures for classification, mapping, accuracy assessment, and use of existing data. Program products meet Federal Geographic Data Committee standards for vegetation classification and metadata, and national standards for spatial accuracy and data transfer. Standards include a minimum mapping unit of 0.5 hectares and classification accuracy of 80% for each map class. Nature Serve, an important partner in the USGS-NPS Vegetation Mapping program, is the caretaker of the National Vegetation Classification System, which is used by the program to classify vegetation communities. --- A report of project methods and results is provided at completion of individual projects. Project results include a rich set of data and information for each park project, as follows: --- Spatial Data: Aerial photography, Map classification, Map classification description and key, Spatial database of vegetation communities, Hardcopy maps of vegetation communities, Metadata for spatial databases, Complete accuracy assessment of spatial data, Vegetation Information. --- Vegetation classification: Dichotomous field key of vegetation classes, Formal description for each vegetation class, Ground photos of vegetation classes, Field data in database format.

Online_Linkage: <http://biology.usgs.gov/npsveg/>

Cross_Reference:

Citation_Information:

Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603

Publication_Date: 200310

Title: Vegetation Spatial Database Coverage for ACAD

Edition: Final

Geospatial_Data_Presentation_Form: map

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Acadia NP Vegetation Mapping Project

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics Other_Citation_Details: The Vegetation Spatial Database Coverage is of Acadia National Park and extended environs, providing 99,693 hectares (246,347 acres) of map data. Of this coverage, 52,872 hectares (130,650 acres) is non-vegetated ocean, bay, and estuary (53% of coverage). Acadia National Park comprises 19,276 hectares (47,633 acres) of the total data coverage area (19%, 40% not counting ocean and estuary data). Over 7,120 polygons make up the coverage, each with map class description and, for vegetation classes, physiognomic feature information. The spatial database provides crosswalk information to all National Vegetation Classification System (NVCS) floristic and physiognomic levels, and to other established classification systems (NatureServe's U.S. Terrestrial Ecological System Classification, Maine Natural Community Classification, and the U.S. Geological Survey Land Use and Land Cover Classification). This mapping project has identified 53 NVCS associations (vegetation communities) at Acadia National Park through analyses of vegetation sample data.

These associations are represented in the map coverage with 33 map classes. With all vegetation types, land use classes, and park specific categories combined, 57 map classes define the ground features within the project area (58 classes including the class for no map data). Each polygon within the spatial database map is identified with one of these map classes. In addition, physiognomic modifiers are added to map classes representing vegetation to describe the vegetation structure within a polygon (density, pattern, and height). The spatial database was produced from the interpretation of spring 1997 1:15,840-scale color infrared aerial photographs. The standard minimum mapping unit (MMU) applied is 0.5 hectares (1.25 acres). The interpreted data were transferred and automated using base maps produced from USGS digital orthophoto quadrangles. The finished spatial database is a single seamless coverage, projected in Universal Transverse Mercator, Zone 19, with datum in North American Datum of 1983. The estimated overall thematic accuracy for vegetation map classes is 80%.

Online_Linkage: <http://biology.usgs.gov/npsveg/acad/>

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report: The various attributes within the spatial database were reviewed and checked for consistency with their original sources (digital data, data sheets), using a combination of manual and digital means.

Logical_Consistency_Report: All point features are unique with their own site attribute and X-Y (Easting-Northing) coordinates. There are no duplicate points.

Completeness_Report: Regardless of use in the analysis, all 724 accuracy assessment sites collected are included in the spatial point coverage. X-Y coordinates are projected in Universal Transverse Mercator, Zone 19 with datum in North American Datum of 1983.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report: X-Y coordinates of field data locations were collected using a Rockwell Precision Lightweight GPS Receiver (PLGR). Most points were successfully collected with positional accuracies ranging from +/- 6 to +/- 10 meters.

Lineage:

Methodology:

Methodology_Type: Field

Methodology_Identifier:

Methodology_Keyword_Thesaurus: None

Methodology_Keyword: Accuracy Assessment

Methodology_Keyword: Vegetation Map

Methodology_Keyword: Analysis

Methodology_Keyword: Statistics

Methodology_Keyword: Contingency Matrix

Methodology_Keyword: Users' Accuracy

Methodology_Keyword: Producers' Accuracy

Methodology_Keyword: GPS

Methodology_Keyword: GIS

Methodology_Description: Accuracy Assessment Procedures: modified and adapted to unique circumstances presented with the Acadia NP Vegetation Mapping Project. See Process Steps for details.

Methodology_Citation:

Citation_Information:

Originator: The Nature Conservancy, Environmental Systems Research Institute, and National Center of Geographic Information and Analysis

Publication_Date: 199411

Title: NBS/NPS Vegetation Mapping Program: Accuracy Assessment Procedures (1994c)

Edition: Final Draft

Geospatial_Data_Presentation_Form: document

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Program Documents and Standards

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: The Nature Conservancy, Environmental Systems Research Institute, and National Center of Geographic Information and Analysis. 1994c. NBS/NPS Vegetation Mapping Program: Accuracy Assessment Procedures. Prepared for the U.S. Department of the Interior, National Biological Survey and National Park Service. -- Accuracy assessment methodology modified and adapted to match unique characteristics and challenges (e.g. remote locations, logistics).

Online_Linkage: <<http://biology.usgs.gov/npsveg/aa/aa.html>>

Source_Information:

Source_Citation:

Citation_Information:

Originator: Aero-Metric, Inc.

Publication_Date: 199705

Title: Aerial Photographs of Acadia National Park

Geospatial_Data_Presentation_Form: aerial photos

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Acadia NP Vegetation Mapping Project

Publication_Information:

Publication_Place: Sheboygan, Wisconsin

Publisher: Aero-Metric, Inc.

Other_Citation_Details: Aerial photographs of Acadia National Park and environs were collected as baseline imagery data to produce the vegetation spatial database coverage for the Acadia National Park Vegetation Mapping Project, USGS-NPS Vegetation Mapping Program. --- Participants of the mapping project's initial scoping meeting (March 1997) agreed to acquire aerial photography of Acadia National Park and extended environs during spring 1997 so that fieldwork and mapping could get underway during the following summer and fall seasons. Aero-Metric, Inc. of Sheboygan, Wisconsin executed the aerial photography mission via contract with the U.S. Army Corp of Engineers (Project Number 1970520), a joint initiative with the U.S. Geological Survey Upper Midwest Environmental Sciences Center (UMESC) of La Crosse, Wisconsin. --- All park fee and easement lands and extended environs were successfully photographed May 27 and 28, 1997 using color infrared dia-positive transparent film (9 x 9 inch size). The photos were collected with an above ground level of 7,920 feet with a lens focal length of 6 inches, resulting in a photo scale of 1:15,840 (negative scale of 1 inch = 1,320 feet, or 4 inches = 1 mile). A 30% side lap (between each flight line) and 60% forward lap (along each flight line) collection standard insured full coverage and stereo viewing. 1179 photos were collected across 28 initial flight lines covering the entire project area. An additional 37 photos across 4 flight lines were re-flown over the mountainous areas of Mount Desert Island to adjust the photo scale of the high mountain terrain. In all, 1216 photos were collected. Two sets of contact prints were made from the original photo transparency film (one set for the field sampling process, and one set for the mapping process).

Source_Scale_Denominator: 15840

Type_of_Source_Media: photographic print

Source_Time_Period_of_Content:

Time_Period_Information:

Multiple_Dates/Times:

Single_Date/Time:

Calendar_Date: 19970527

Single_Date/Time:

Calendar_Date: 19970528

Source_Currentness_Reference: ground condition

Source_Citation_Abbreviation: ACAD Spring 1997 CIR Aerial Photographs

Source_Contribution: Aerial images used for field navigation during AA field data collection.

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S. Geological Survey

Publication_Date: 1991

Title: USGS 3.75-minute Digital Orthophoto Quadrangles of Acadia NP
Geospatial_Data_Presentation_Form: orthoimage
Series_Information:
 Series_Name: U.S. Geological Survey Digital Orthophoto Quadrangle Program
 Issue_Identification: 3.75-minute
Publication_Information:
 Publication_Place: Menlo Park, California
 Publisher: U.S. Geological Survey, Earth Science Information Center
Other_Citation_Details: Black & white (gray-scale) orthorectified images derived from aerial photographs taken May - July 1991. Projection is in Universal Transverse Mercator, Zone 19, and datum in North American Datum of 1983, Geodetic Reference System 80 spheroid.
Source_Scale_Denominator: 12000
Type_of_Source_Media: online
Source_Time_Period_of_Content:
 Time_Period_Information:
 Single_Date/Time:
 Calendar_Date: 1991
 Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: ACAD USGS 3.75-minute DOQ (USGS 1991)
Source_Contribution: Hard copy maps used for field navigation during AA field data collection.
Source_Information:
Source_Citation:
Citation_Information:
 Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center
 Publication_Date: 2003
 Title: Map Classes for the Acadia National Park Vegetation Mapping Project
 Geospatial_Data_Presentation_Form: report
Series_Information:
 Series_Name: USGS-NPS Vegetation Mapping Program
 Issue_Identification: Acadia NP Vegetation Mapping Project
Publication_Information:
 Publication_Place: La Crosse, Wisconsin
 Publisher: U.S. Geological Survey, Upper Midwest Environmental Sciences Center
Other_Citation_Details: Map class codes and name descriptions developed specifically for the Acadia NP Vegetation Mapping Project. Includes crosswalk to the National Vegetation Classification System floristic and physiognomic levels (names and codes), Physiognomic - Hydrologic Groups, Maine Natural Community Classification, and U.S. Geological Survey Land Use and Land Cover Classification System (Level 2). Files pertaining to map classification lists and crosswalk to other classifications are available on the project's CD-ROM.
Type_of_Source_Media: Digital database file
Source_Time_Period_of_Content:
 Time_Period_Information:
 Single_Date/Time:
 Calendar_Date: 2003
 Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: ACAD Map Classification (UMESC 2003)
Source_Contribution: Map classification used in AA analysis for comparison to field site calls.
Source_Information:
Source_Citation:
Citation_Information:
 Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603
 Publication_Date: 200310
 Title: Vegetation Spatial Database Coverage for the Acadia National Park Vegetation Mapping Project
 Edition: Final
 Geospatial_Data_Presentation_Form: map

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Acadia NP Vegetation Mapping Project

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: The spatial database was prepared by the USGS Upper Midwest Environmental Sciences Center for the USGS-NPS Vegetation Mapping Program. The Nature Conservancy, NatureServe, and Maine Natural Areas Program provided ecological and vegetation classification support.

Online_Linkage: <<http://biology.usgs.gov/npsveg/acad/>>

Type_of_Source_Media: Digital database file

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 200310

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: ACAD FINAL Vegetation Map (UMESC 2003)

Source_Contribution: Geo-spatial database of polygon data showing locations of vegetation map classes used in the final AA analysis for comparison to field site calls.

Source_Information:

Source_Citation:

Citation_Information:

Originator: NatureServe

Publication_Date: 2003

Title: International Vegetation Classification (2003)

Geospatial_Data_Presentation_Form: Database

Publication_Information:

Publication_Place: Arlington, Virginia

Publisher: NatureServe

Other_Citation_Details: NatureServe. 2003. International Ecological Classification Standard: International Vegetation Classification. Central Databases, NatureServe, Arlington, Virginia, USA.

Online_Linkage: <<http://www.natureserve.org/>>

Type_of_Source_Media: online

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2003

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: NVCS Floristic Classes (NatureServe 2003)

Source_Contribution: Vegetation associations used for final AA analysis; 2003 version.

Source_Information:

Source_Citation:

Citation_Information:

Originator: Anderson, M., P. Bourgeron, M. T. Bryer, R. Crawford, L. Engelking, D. Faber-Langendoen, M. Gallyoun, K. Goodin, D. H. Grossman, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, L. Sneddon, and A. S. Weakley

Publication_Date: 1998

Title: International classification of ecological communities: terrestrial vegetation of the United States. Volume II. The National Vegetation Classification System: list of types

Geospatial_Data_Presentation_Form: document

Publication_Information:

Publication_Place: Arlington, Virginia, USA

Publisher: The Nature Conservancy

Other_Citation_Details: U.S. National Vegetation Classification listing of physiognomic and floristic classes.

Type_of_Source_Media: online

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 1998

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: U.S. National Vegetation Classification (TNC 1998)

Source_Contribution: Vegetation associations used for initial AA analysis; 1998 version.

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road,
La Crosse, Wisconsin 54603

Publication_Date: 200001

Title: Vegetation Spatial Database Coverage (BETA) for the Acadia National Park Vegetation Mapping
Project

Edition: Beta

Geospatial_Data_Presentation_Form: map

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Acadia NP Vegetation Mapping Project

Publication_Information:

Publication_Place: La Crosse, Wisconsin

Publisher: U.S. Geological Survey, Upper Midwest Environmental Sciences Center

Other_Citation_Details: This BETA version of the Acadia NP vegetation spatial database was distributed to
the VMP and Acadia NP for initial review and use. Because community vegetation classification was not
sufficiently developed at the time of release, the BETA version is supported only with map classification
information (map classes and physiognomic vegetation data).

Type_of_Source_Media: Digital database file

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 200001

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: ACAD BETA Vegetation Map (UMESC 2000)

Source_Contribution: Geo-spatial database of polygon data showing locations of vegetation map classes used in
the initial AA analysis for comparison to field site calls.

Source_Information:

Source_Citation:

Citation_Information:

Originator: SAS Institute, Inc.

Publication_Date: 1996

Title: SAS/STAT Software (1996)

Edition: Release 6.12

Geospatial_Data_Presentation_Form: cd

Publication_Information:

Publication_Place: Cary, North Carolina

Publisher: SAS Institute, Inc.

Other_Citation_Details: SAS Institute, Inc. 1996. SAS/STAT Release 6.12 Edition. Cary, North Carolina

Type_of_Source_Media: computer program

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 1996

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: SAS (1996)

Source_Contribution: Computer software program used to compare and tabulate AA field calls and classified

map polygons.

Source_Information:

Source_Citation:

Citation_Information:

Originator: The Nature Conservancy

Publication_Date: 1997

Title: PLOTS Database System (1997)

Edition: Version 1.1

Geospatial_Data_Presentation_Form: database

Publication_Information:

Publication_Place: Arlington, Virginia

Publisher: The Nature Conservancy

Other_Citation_Details: Plant species taxonomy extracted from the December 1996 version of The PLANTS Database (USDA).

Type_of_Source_Media: computer program

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 1997

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: PLOTS (1997)

Source_Contribution: Computer software program used for vegetation data entry and subsequent export for AA analysis.

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S. Geological Survey, Upper Midwest Environmental Sciences Center, 2630 Fanta Reed Road, La Crosse, Wisconsin 54603

Publication_Date: 200310

Title: Accuracy Assessment Site Spatial Database for the Acadia National Park Vegetation Mapping Project

Edition: Final

Geospatial_Data_Presentation_Form: map

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Acadia NP Vegetation Mapping Project

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: This spatial database was prepared by the U.S. Geological Survey Upper Midwest Environmental Sciences Center for the USGS-NPS Vegetation Mapping Program. The Nature Conservancy, NatureServe, and Maine Natural Areas Program provided ecological and vegetation classification support.

Online_Linkage: <<http://biology.usgs.gov/npsveg/acad/>>

Type_of_Source_Media: Digital database file

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 200310

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: ACAD AA Spatial Database

Source_Contribution: Geo-spatial product showing locations of accuracy assessment sites.

Source_Information:

Source_Citation:

Citation_Information:

Originator: The Nature Conservancy, Environmental Systems Research Institute, and National Center of Geographic Information and Analysis

Publication_Date: 199411

Title: NBS/NPS Vegetation Mapping Program: Accuracy Assessment Procedures (1994c)

Edition: Final Draft

Geospatial_Data_Presentation_Form: document

Series_Information:

Series_Name: USGS-NPS Vegetation Mapping Program

Issue_Identification: Program Documents and Standards

Publication_Information:

Publication_Place: Denver, Colorado

Publisher: U.S. Geological Survey, Center for Biological Informatics

Other_Citation_Details: The Nature Conservancy, Environmental Systems Research Institute, and National Center of Geographic Information and Analysis. 1994c. NBS/NPS Vegetation Mapping Program:

Accuracy Assessment Procedures. Prepared for the U.S. Department of the Interior, National Biological Survey and National Park Service. -- Accuracy assessment methodology modified and adapted to match unique characteristics and challenges (e.g. remote locations, logistics).

Online_Linkage: <<http://biology.usgs.gov/npsveg/aa/aa.html>>

Type_of_Source_Media: online

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 199411

Source_Currentness_Reference: publication date

Source_Citation_Abbreviation: Accuracy Assessment Procedures (1994)

Source_Contribution: none

Process_Step:

Process_Description: INTRODUCTION: --- The accuracy assessment (AA) process is split into 4 sections: 1) Site Selection, 2) Field Methods, 3) Data Analysis, and 4) Spatial Database.

Process_Date: 1999-2003

Process_Step:

Process_Description: SITE SELECTION: --- The number of AA sites selected for field visits depended on a combination of polygon frequency and area per individual themes (map classes) within the vegetation map coverage, as outlined in the USGS-NPS Vegetation Mapping Program's (VMP) Accuracy Assessment Procedures document (TNC et al. 1994c). This formula was applied to the 33 map classes that represent natural/semi-natural vegetation community types within areas of access (the Park's fee and easement lands). Site locations were randomly stratified as best possible across the vegetation map data that was available at the time of field assessment. While the photointerpretation mapping was complete prior to the AA field season, the subsequent digital map automation was still in progress. AA site data (GPS coordinates & maps) were sent to the field crew in 4 segments (phases) to maximize the area of map for field assessment, as the digital automation continued into the field season. Phase I covered the western third of Mount Desert Island. Phase II covered Schoodic Peninsula, Isle au Haut, and Long Island. Phase III covered the eastern third of Mount Desert Island. And, phase IV covered the central third of Mount Desert Island. --- Once the number of samples per map class (theme) was determined, 3 times the number of sites needed were randomly generated using a software program so that 1) point locations falling in close proximity to polygon edges could be minimized (to reduce location error due to GPS positional error in the field) and 2) remote locations of individual points could be minimized for logistical reasons (staff, time, and cost). With the over-sample of sites reduced back to its original sample size, a total of 728 sites resulted for field assessment.

Source_Used_Citation_Abbreviation: ACAD BETA Vegetation Map (UMESC 2000)

Source_Used_Citation_Abbreviation: Accuracy Assessment Procedures (1994)

Process_Date: 1999

Process_Step:

Process_Description: FIELD METHODS: --- Hard copy 1:12,000-scale orthophoto quadrangle maps, produced from U.S. Geological Survey 3.75-minute digital orthophoto quadrangles (DOQ), were plotted with vegetation polygons (without map attributes) and the final selection of AA points overlaying the maps. The orthophoto maps, along with the Project's aerial photographs, were used to help navigate across terrain and to help confirm proper site location. The AA site X-Y coordinates (Easting-Northing) in Universal Transverse Mercator, Zone 19 with datum in North American Datum of 1983 were uploaded into a Rockwell Precision

Lightweight GPS Receiver (PLGR) unit. Written instructions and data sheets were also provided to the ground crew. --- AA field data were collected during the 1999 field season (May 24 through September 28) by botanists via contract with The Nature Conservancy. Acadia NP staff assisted with field navigation and the collection of GPS field coordinates (using the PLGR unit). Field X-Y coordinates were collected with projection in UTM, Zone 19 with datum in NAD83. Vegetation types were determined using a vegetation key developed for the Project. The vegetation type was recorded on data sheets along with the new field coordinates, canopy structure, and dominant species by strata, environmental features, adjacent vegetation types, and rationale for classification. The field team collected data for 724 AA sites, all but 4 of the originally selected sites. The data were entered into the PLOTS database (TNC 1997) and reviewed for errors.

Source_Used_Citation_Abbreviation: ACAD Spring 1997 CIR Aerial Photographs

Source_Used_Citation_Abbreviation: ACAD USGS 3.75-minute DOQ (USGS 1991)

Source_Used_Citation_Abbreviation: U.S. National Vegetation Classification (TNC 1998)

Source_Used_Citation_Abbreviation: PLOTS (1997)

Process_Date: 2001-2003

Process_Step:

Process_Description: DATA ANALYSIS: --- The 724 field coordinates, along with selected items from the AA database (within the PLOTS database) were intersected with the vegetation map coverage, producing an output table to begin a comparison between field assessment calls and map classes of the polygons in which the field coordinate is located. Although some vegetation communities and map classes have a 1:1 relationship to each other, some do not. (There are 33 map classes representing 53 natural/semi-natural NVCS vegetation communities.) Some vegetation communities were grouped together because the map class represents 2 or more vegetation communities. Likewise, some map classes were grouped together because they represent phases of 1 vegetation community. Once a 1:1 relationship was established between map classes and vegetation types, PROC FREQ (SAS 1996) was used to compare and tabulate the total number of AA sites and map polygons that were in agreement. ---Discrepancies were investigated to discern true errors from false ones. Each discrepancy between an AA field site and the classified map polygon was researched by 1) reviewing the original field data sheet, 2) assessing the field collected GPS coordinate to the mapped polygon (and the originally selected GPS coordinate if necessary) using GIS software, and 3) reviewing the aerial photograph of the site with the original interpreted overlay. Numerous AA points were determined to be "false" discrepancies due to 1) GPS coordinate error (either spatial or data entry), 2) alternate call, 3) incorrect call (e.g. wrong use of the vegetation key), and 4) site inclusion to larger polygon. (For more in depth discussions false discrepancies, refer to the addendum provided in the last Process Step below, or the Project's technical report.) False discrepancies were adjusted only for the analysis and not in the source database sets, except for incorrect calls. Many of these outwardly appearing discrepancies proved to agree with the vegetation map once proper adjustments were made. Others continued to present disagreement with the vegetation map, however, better displaying the data to properly understand those disagreements. --- The in depth review of all disagreements between the accuracy assessment sites and the vegetation map exposed consistent diverging patterns between the map and field assessment data. At this point, the map was adjusted through a series of "global" changes; digital changes to classification in the map (that is, globally changing entire groups of like-classified map polygons) to better align with the final version of vegetation classification. Also recognized at this point were additional map classes that merely represented an expression (or, in part) of vegetation types. These expressions are preserved in the vegetation map database, yet were combined for the accuracy assessment. --- 688 of the 724 field sites were used for the final AA analysis. 36 sites were not used due to the elimination of an entire map class because of irreconcilable classification concepts (19 sites), or to other reasons including unmanageable error with GPS coordinate, duplicate site location, unable to access, and incomplete field data (17 sites). Another 72 sites were determined as inclusions and were corrected to reflect the surrounding area that was of mappable size (adjusted for the analysis only and not in the Project's accuracy assessment database). --- With each "false" discrepancy now reflecting proper assignments (whether now a match, or remains a disagreement), and revisions made to the vegetation map to better reflect the vegetation classification, another comparison analysis was performed of the field data and vegetation map data, once again using PROC FREQ (SAS 1996). The numbers were transferred into a contingency table (matrix), where users' and producers' accuracy percentages were figured for each map class. The matrix not only shows the frequency of agreement, but also the placement (and frequency thereof) of disagreements. The information provided by the AA analysis has been duly enhanced through the elaborate process of properly reassigning AA sites deemed as false discrepancies. Based on the results of this thematic accuracy assessment, the estimated overall accuracy for vegetation map classes is 80% with a kappa index of 79%.

Source_Used_Citation_Abbreviation: ACAD Map Classification (UMESC 2003)

Source_Used_Citation_Abbreviation: ACAD FINAL Vegetation Map (UMESC 2003)

Source_Used_Citation_Abbreviation: NVCS Floristic Classes (NatureServe 2003)

Source_Used_Citation_Abbreviation: SAS (1996)

Process_Date: 2003

Process_Step:

Process_Description: SPATIAL DATABASE: --- The Accuracy Assessment Spatial Database coverage shows the locations of all 724 AA sites collected regardless of whether it was used in the analysis. The AA field sites & their corresponding X-Y coordinates were exported from the PLOTS database, then imported into ArcView GIS (Version 3.3) as an Event Theme using the UTM (Zone 19) NAD83 X-Y coordinates, then converted to a Shapefile coverage. The Shapefile coverage was then converted to an ArcInfo coverage using the Shapearc command in ArcInfo (Version 8.0.2). ArcInfo was used to produce the final ArcInfo Export (.e00) file.

Source_Produced_Citation_Abbreviation: ACAD AA Spatial Database

Process_Date: 2003

Process_Step:

Process_Description: ADDENDUM DISCUSSION ON FALSE DISCREPANCIES: --- Spatial GPS coordinate errors occurred when the field collected GPS coordinate had slight inaccuracies in geo-positional placement moving the coordinate just inside an adjacent polygon, thus acquiring a different than intended map class. This was common for sites that were close to polygon edges, something that couldn't always be avoided during site selection (especially with narrow corridor shaped polygons). These were adjusted for the AA analysis to reflect the intended polygon's map class. Some GPS errors were due to incorrect entering of the field coordinate data. These error coordinates were assessed by reviewing the field data sheets, complimented with accessing the originally selected X-Y coordinates. Some coordinates could not be successfully recovered and thus dropped from the analysis. --- Alternate vegetation communities were often recorded on the field data sheets when the site being assessed was not clear between closely related vegetation types. With these alternate calls entered into the database, when comparing the field calls to the vegetation map, only the primary or initial field call was used. Upon manual review of the field data sheets, if the alternate vegetation community matched the vegetation map, the assessment was adjusted to give the map the benefit, an approach the VMP approves of. In some cases, the analysis team questioned the field assessment call based on the vegetation key and community descriptions. In these cases, the data sheet was forwarded to NatureServe for re-evaluation of the field call. --- Numerous field assessments were determined to be an inclusion to the surrounding vegetation type after reviewing the aerial photographs. Certain vegetative features can be quite apparent from each other (e.g. sparse vegetation on rock outcrop vs. dense stand of conifer trees), allowing easy judgment of a field assessment that was conducted smaller than the minimum mapping unit (mmu) standard of 0.5 hectares. In these cases, the map again was given the benefit. 72 inclusions were discovered through this process.

Process_Date: 2003

Process_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Kevin Hop

Contact_Organization: U.S. Geological Survey, Upper Midwest Environmental Sciences Center

Contact_Position: Principal Investigator

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Contact_Electronic_Mail_Address: kevin_hop@usgs.gov

Spatial_Data_Organization_Information:

Indirect_Spatial_Reference: Acadia National Park, the first national park to be established east of the Mississippi, is located on the coast of Maine primarily in Hancock County (with outlying areas in adjacent Knox County) and is situated on a large portion of Mount Desert Island as well as some adjacent mainland and island tracts, including the Schoodic Peninsula and Isle au Haut. The Park encompasses almost 48,000 acres of granite-domed mountains, woodlands, lakes and ponds, and ocean shoreline with nearby towns and villages including Bar Harbor, Northwest Harbor, Southwest Harbor, Seal Harbor, Bass Harbor, and Isle au Haut.

Direct_Spatial_Reference_Method: Point

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Point

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Planar:

Grid_Coordinate_System:

Grid_Coordinate_System_Name: Universal Transverse Mercator

Universal_Transverse_Mercator:

UTM_Zone_Number: 19

Transverse_Mercator:

Scale_Factor_at_Central_Meridian: 0.9996

Longitude_of_Central_Meridian: -69

Latitude_of_Projection_Origin: 0

False_Easting: 500000

False_Northing: 0

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: coordinate pair

Coordinate_Representation:

Abscissa_Resolution: 1

Ordinate_Resolution: 1

Planar_Distance_Units: meters

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1983

Ellipsoid_Name: Geodetic Reference System 80

Semi-major_Axis: 6378137

Denominator_of_Flattening_Ratio: 298.257

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview: Items within the spatial database attribute table in addition to the ArcInfo default items include: 1) ACAD_AA - accuracy assessment site number, 2) X_EASTING - Easting coordinate projected in UTM, Zone 19, with datum in NAD83, and 3) Y_NORTHING - Northing coordinate projected in UTM, Zone 19, with datum in NAD83.

Entity_and_Attribute_Detail_Citation: Map Class (codes and description names): Map Classes for the Acadia National Park Vegetation Mapping Project. 2003. U.S. Geological Survey Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin.

Entity_and_Attribute_Detail_Citation: FGDC Vegetation Classification Standard: Federal Geographic Data Committee. 1997. Vegetation classification standard, FGDC-STD-005.

Entity_and_Attribute_Detail_Citation: NatureServe International Vegetation Classification: NatureServe. 2003. International Ecological Classification Standard: International Vegetation Classification. Central Databases, NatureServe, Arlington, Virginia, USA.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SF
Entity_Type_Definition: Spruce - Fir Forest (conifer phase)
Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance
Attribute_Definition: I.A.8.N.c.15 - PICEA RUBENS - ABIES BALSAMEA FOREST ALLIANCE
Attribute_Definition_Source: NatureServe International Vegetation Classification
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association
Attribute_Definition: Picea rubens - Picea glauca Forest (CEGL006151)
Attribute_Definition_Source: NatureServe International Vegetation Classification
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features.

Attribute:

Attribute_Label: Formation
Attribute_Definition: I.A.8.N.c - Conical-crown temperate or subpolar needle-leaved evergreen forest
Attribute_Definition_Source: FGDC Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: WPC
Entity_Type_Definition: White Pine - Mixed Conifer Forest
Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance
Attribute_Definition: I.A.8.N.b.13 - PINUS STROBUS - TSUGA CANADENSIS FOREST ALLIANCE
AND/OR I.C.3.N.a.32 - TSUGA CANADENSIS - BETULA ALLEGHANIENSIS FOREST ALLIANCE
Attribute_Definition_Source: NatureServe International Vegetation Classification
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association
Attribute_Definition: Pinus strobus - Tsuga canadensis - Picea rubens Forest (CEGL006324) AND/OR Tsuga canadensis - (Betula alleghaniensis) - Picea rubens / Cornus canadensis Forest (CEGL006129)
Attribute_Definition_Source: NatureServe International Vegetation Classification
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association
Attribute_Definition: I.A.8.N.b - Rounded-crown temperate or subpolar needle-leaved evergreen forest
AND/OR I.C.3.N.a - Mixed needle-leaved evergreen - cold-deciduous forest
Attribute_Definition_Source: FGDC Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: WRP
Entity_Type_Definition: Red Pine - White Pine Forest
Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance
Attribute_Definition: I.A.8.N.b.14 - PINUS STROBUS FOREST ALLIANCE
Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Pinus strobus - Pinus resinosa / Cornus canadensis Forest (CEGL006253)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.A.8.N.b - Rounded-crown temperate or subpolar needle-leaved evergreen forest

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: MDF

Entity_Type_Definition: Beech - Birch - Maple Forest

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: I.B.2.N.a.4 - ACER SACCHARUM - BETULA ALLEGHANIENSIS - (FAGUS GRANDIFOLIA) FOREST ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Acer saccharum - Betula alleghaniensis - Fagus grandifolia / Viburnum lantanoides Forest (CEGL006252)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.B.2.N.a - Lowland or submontane cold-deciduous forest

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: OPF

Entity_Type_Definition: Oak - Pine Forest

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: I.B.2.N.a.39 - QUERCUS RUBRA - (ACER SACCHARUM) FOREST ALLIANCE, I.C.3.N.a.21 - PINUS STROBUS - QUERCUS (ALBA, RUBRA, VELUTINA) FOREST ALLIANCE, I.C.3.N.a.300 - PINUS STROBUS - ACER SACCHARUM FOREST ALLIANCE, II.B.2.N.a.24 - QUERCUS RUBRA - QUERCUS PRINUS WOODLAND ALLIANCE, AND/OR V.A.5.N.e.8 - DANTHONIA SPICATA HERBACEOUS ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Quercus rubra - Acer rubrum - Betula spp. - Pinus strobus Forest (CEGL006506), Pinus strobus - Quercus (rubra, velutina) - Fagus grandifolia Forest (CEGL006293), Acer saccharum - Pinus strobus / Acer pensylvanicum Forest (CEGL005005), Quercus rubra - (Quercus prinus) / Vaccinium spp. / Deschampsia flexuosa Woodland (CEGL006134), AND/OR (Pinus strobus, Quercus rubra) / Danthonia spicata Acid Bedrock Wooded Herbaceous Vegetation (CEGL005101)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.B.2.N.a - Lowland or submontane cold-deciduous forest, I.C.3.N.a - Mixed needle-leaved evergreen - cold-deciduous forest, II.B.2.N.a - Cold-deciduous woodland, AND/OR V.A.5.N.e - Short sod temperate or subpolar grassland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SFM

Entity_Type_Definition: Spruce - Fir Forest (mixed phase)

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: I.C.3.N.a.4 - PICEA RUBENS - BETULA ALLEGHANIENSIS FOREST ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Picea rubens - Abies balsamea - Betula spp. - Acer rubrum Forest (CEGL006505)

AND/OR Picea rubens - Betula alleghaniensis / Dryopteris campyloptera Forest (CEGL006267)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.C.3.N.a - Mixed needle-leaved evergreen - cold-deciduous forest

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: WPM

Entity_Type_Definition: White Pine - Hardwood Forest

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: I.B.2.N.a.39 - QUERCUS RUBRA - (ACER SACCHARUM) FOREST ALLIANCE, I.C.3.N.a.32 - TSUGA CANADENSIS - BETULA ALLEGHANIENSIS FOREST ALLIANCE, AND/OR I.C.3.N.a.300 - PINUS STROBUS - ACER SACCHARUM FOREST ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Quercus rubra - Acer rubrum - Betula spp. - Pinus strobus Forest (CEGL006506), Tsuga

canadensis - (*Betula alleghaniensis*) - *Picea rubens* / *Cornus canadensis* Forest (CEGL006129), AND/OR *Acer saccharum* - *Pinus strobus* / *Acer pensylvanicum* Forest (CEGL005005)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.B.2.N.a - Lowland or submontane cold-deciduous forest AND/OR I.C.3.N.a - Mixed needle-leaved evergreen - cold-deciduous forest

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: MCW

Entity_Type_Definition: Mixed Conifer Woodland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.b.1 - THUJA OCCIDENTALIS WOODLAND ALLIANCE, II.A.4.N.b.3 - PICEA RUBENS WOODLAND ALLIANCE, AND/OR II.A.4.N.b.400 - PICEA MARIANA WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: *Thuja occidentalis* - *Fraxinus pennsylvanica* / *Acer pensylvanicum* Woodland (CEGL006508), *Picea rubens* / *Vaccinium angustifolium* - *Sibbaldiopsis tridentata* Woodland (CEGL006053), *Picea rubens* / *Ribes glandulosum* Woodland (CEGL006250), AND/OR *Picea mariana* / *Kalmia angustifolia* Woodland (CEGL006292)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.b - Conical-crown temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: WCW

Entity_Type_Definition: White Cedar Woodland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.b.1 - THUJA OCCIDENTALIS WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: *Thuja occidentalis* / *Gaylussacia baccata* - *Vaccinium angustifolium* Woodland (CEGL006411) AND/OR *Thuja occidentalis* - *Fraxinus pennsylvanica* / *Acer pensylvanicum* Woodland (CEGL006508)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.b - Conical-crown temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: JPW

Entity_Type_Definition: Jack Pine Woodland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.a.9 - PINUS (BANKSIANA, RESINOSA) WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Pinus banksiana / Kalmia angustifolia - Vaccinium spp. Woodland (CEGL006041)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.a - Rounded-crown temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: PPB

Entity_Type_Definition: Pitch Pine - Heath Barren

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.a.26 - PINUS RIGIDA WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Pinus rigida / Vaccinium spp. - Gaylussacia baccata Woodland (CEGL005046)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.a - Rounded-crown temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: PPC

Entity_Type_Definition: Pitch Pine - Corema Woodland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.a.26 - PINUS RIGIDA WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Pinus rigida / Corema conradii Woodland (CEGL006154)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.a - Rounded-crown temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: PPW

Entity_Type_Definition: Pitch Pine Woodland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.a.26 - PINUS RIGIDA WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Pinus rigida / Photinia melanocarpa / Deschampsia flexuosa - Schizachyrium scoparium Woodland (CEGL006116)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.a - Rounded-crown temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: ABF

Entity_Type_Definition: Aspen - Birch Woodland/Forest Complex (forest phase)

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.B.2.N.a.10 - POPULUS TREMULOIDES WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Populus (tremuloides, grandidentata) - Betula (populifolia, papyrifera) Woodland (CEGL006303)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.B.2.N.a - Cold-deciduous woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: ABW

Entity_Type_Definition: Aspen - Birch Woodland/Forest Complex (woodland phase)

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.B.2.N.a.10 - POPULUS TREMULOIDES WOODLAND ALLIANCE AND/OR II.B.2.N.a.24 - QUERCUS RUBRA - QUERCUS PRINUS WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Populus (tremuloides, grandidentata) - Betula (populifolia, papyrifera) Woodland (CEGL006303) AND/OR Betula alleghaniensis - Quercus rubra / Polypodium virginianum Woodland (CEGL006320)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.B.2.N.a - Cold-deciduous woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: ABS

Entity_Type_Definition: Aspen - Birch Woodland/Forest Complex (shrubland phase)

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.B.2.N.a.10 - POPULUS TREMULOIDES WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Populus (tremuloides, grandidentata) - Betula (populifolia, papyrifera) Woodland (CEGL006303)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.B.2.N.a - Cold-deciduous woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: ROW

Entity_Type_Definition: Red Oak Woodland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: I.B.2.N.a.39 - QUERCUS RUBRA - (ACER SACCHARUM) FOREST ALLIANCE
AND/OR II.B.2.N.a.24 - QUERCUS RUBRA - QUERCUS PRINUS WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Quercus rubra - Acer rubrum - Betula spp. - Pinus strobus Forest (CEGL006506) AND/OR
Quercus rubra - (Quercus prinus) / Vaccinium spp. / Deschampsia flexuosa Woodland (CEGL006134)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.B.2.N.a - Lowland or submontane cold-deciduous forest AND/OR II.B.2.N.a - Cold-deciduous woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: MW

Entity_Type_Definition: Mixed Conifer - Deciduous Woodland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.b.3 - PICEA RUBENS WOODLAND ALLIANCE, II.B.2.N.a.10 - POPULUS
TREMULOIDES WOODLAND ALLIANCE, AND/OR V.A.5.N.e.8 - DANTHONIA SPICATA
HERBACEOUS ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Picea rubens / Vaccinium angustifolium - Sibbaldiopsis tridentata Woodland
(CEGL006053), Populus (tremuloides, grandidentata) - Betula (populifolia, papyrifera) Woodland
(CEGL006303), AND/OR (Pinus strobus, Quercus rubra) / Danthonia spicata Acid Bedrock Wooded
Herbaceous Vegetation (CEGL005101)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.b - Conical-crown temperate or subpolar needle-leaved evergreen woodland,
II.B.2.N.a - Cold-deciduous woodland, AND/OR V.A.5.N.e - Short sod temperate or subpolar grassland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: MAS

Entity_Type_Definition: Red Maple - Hardwood Swamp

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: I.B.2.N.e.1 - ACER RUBRUM - FRAXINUS PENNSYLVANICA SEASONALLY
FLOODED FOREST ALLIANCE AND/OR II.B.2.N.e.1 - ACER RUBRUM SATURATED WOODLAND
ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Acer rubrum - Fraxinus spp. / Nemopanthus mucronatus - Vaccinium corymbosum Forest
(CEGL006220) AND/OR Acer rubrum / Alnus incana - Ilex verticillata / Osmunda regalis Woodland
(CEGL006395)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.B.2.N.e - Seasonally flooded cold-deciduous forest AND/OR II.B.2.N.e - Saturated cold-
deciduous woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: CSW

Entity_Type_Definition: Conifer Swamp Woodland (spruce-mixed phase)

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: I.C.3.N.d.10 - PICEA RUBENS - ACER RUBRUM SATURATED FOREST ALLIANCE
AND/OR II.A.4.N.f.13 - PICEA MARIANA SATURATED WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Picea rubens - Acer rubrum / Nemopanthus mucronatus Forest (CEGL006198) AND/OR
Picea mariana / (Vaccinium corymbosum, Gaylussacia baccata) / Sphagnum sp. Woodland (CEGL006098)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: I.C.3.N.d - Saturated mixed needle-leaved evergreen - cold-deciduous forest AND/OR

II.A.4.N.f - Saturated temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: WCS

Entity_Type_Definition: Conifer Swamp Woodland (white cedar phase)

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: II.A.4.N.f.11 - THUJA OCCIDENTALIS SATURATED WOODLAND ALLIANCE
AND/OR II.A.4.N.f.13 - PICEA MARIANA SATURATED WOODLAND ALLIANCE

Attribute_Definition_Source: NatureServe Alliance scientific name

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Thuja occidentalis - Abies balsamea / Ledum groenlandicum / Carex trisperma Woodland
(CEGL006507) AND/OR Picea mariana / (Vaccinium corymbosum, Gaylussacia baccata) / Sphagnum sp.
Woodland (CEGL006098)

Attribute_Definition_Source: NatureServe Association scientific name

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: II.A.4.N.f - Saturated temperate or subpolar needle-leaved evergreen woodland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: CB

Entity_Type_Definition: Crowberry - Bayberry Headland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: IV.A.1.N.b.7 - EMPETRUM NIGRUM DWARF-SHRUBLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Morella pensylvanica - Empetrum nigrum Dwarf-shrubland (CEGL006510)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: IV.A.1.N.b - Creeping or matted needle-leaved or microphyllous evergreen dwarf-shrubland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: BBSS

Entity_Type_Definition: Blueberry Bald - Summit Shrubland Complex

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: IV.B.2.N.a.1 - VACCINIUM (ANGUSTIFOLIUM, MYRTILLOIDES, PALLIDUM)
DWARF-SHRUBLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Vaccinium angustifolium - Sorbus americana / Sibbaldiopsis tridentata Dwarf-shrubland
(CEGL005094)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: IV.B.2.N.a - Cespitose cold-deciduous dwarf-shrubland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: AM

Entity_Type_Definition: Dune Grassland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: V.A.5.N.c.2 - AMMOPHILA BREVILIGULATA HERBACEOUS ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Ammophila breviligulata - Lathyrus japonicus Herbaceous Vegetation (CEGL006274)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: V.A.5.N.c - Medium-tall sod temperate or subpolar grassland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SVH

Entity_Type_Definition: Open Headland - Beach Strand

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: VII.A.2.N.a.4 - OPEN PAVEMENT SPARSELY VEGETATED ALLIANCE AND/OR
VII.C.2.N.a.2 - CAKILE EDENTULA SPARSELY VEGETATED ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Solidago sempervirens - (Rhodiola rosea) - Juniperus horizontalis Sparse Vegetation (CEGL006529) AND/OR Cakile edentula ssp. edentula - Mertensia maritima Sparse Vegetation (CEGL006106)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: VII.A.2.N.a - Pavement with sparse vascular vegetation AND/OR VII.C.2.N.a - Sand flats

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SVT

Entity_Type_Definition: Sparsely Vegetated Talus

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: VI.B.1.N.c.300 - LICHEN SPP. NONVASCULAR ALLIANCE

Attribute_Definition_Source: NatureServe Alliance scientific name

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Polypodium (virginianum, appalachianum) / Lichen spp. Nonvascular Vegetation (CEGL006534)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: VI.B.1.N.c - Lichen vegetation with a sparse tree layer

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: ASP

Entity_Type_Definition: Alder Shrubland

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: III.B.2.N.d.9 - ALNUS INCANA TEMPORARILY FLOODED SHRUBLAND ALLIANCE AND/OR III.B.2.N.e.9 - ALNUS SERRULATA SEASONALLY FLOODED SHRUBLAND ALLIANCE

Attribute_Definition_Source: NatureServe Alliance scientific name

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: *Alnus incana* - *Cornus sericea* / *Clematis virginiana* Shrubland (CEGL006062) AND/OR
Alnus incana ssp. *rugosa* - *Nemopanthus mucronatus* / *Sphagnum* spp. Shrubland (CEGL006158)

Attribute_Definition_Source: NatureServe Alliance scientific name

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: III.B.2.N.d - Temporarily flooded cold-deciduous shrubland AND/OR III.B.2.N.e -
Seasonally flooded cold-deciduous shrubland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SG

Entity_Type_Definition: Sweetgale Mixed Shrub Fen

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: III.B.2.N.g.9 - MYRICA GALE SATURATED SHRUBLAND ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: *Myrica gale* - *Spiraea alba* - *Chamaedaphne calyculata* Shrubland (CEGL006512)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: III.B.2.N.g - Saturated cold-deciduous shrubland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: DSB

Entity_Type_Definition: Dwarf Shrub Bog

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: IV.A.1.N.g.1 - CHAMAEDAPHNE CALYCVULATA SATURATED DWARF-
SHRUBLAND ALLIANCE AND/OR V.A.5.N.h.1 - TRICHOPHORUM CAESPITOSUM HERBACEOUS
ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: *Kalmia angustifolia* - *Chamaedaphne calyculata* - (*Picea mariana*) / *Cladina* spp. Dwarf-
shrubland (CEGL006225) AND/OR *Trichophorum caespitosum* - *Gaylussacia dumosa* / *Sphagnum* (*fussum*,
rubellum, *magellanicum*) Herbaceous Vegetation (CEGL006260)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: IV.A.1.N.g - Saturated needle-leaved or microphyllous evergreen dwarf-shrubland
AND/OR V.A.5.N.h - Short alpine or subalpine dry bunch grassland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: FX

Entity_Type_Definition: Fen Complex

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: III.B.2.N.e.9 - ALNUS SERRULATA SEASONALLY FLOODED SHRUBLAND ALLIANCE, III.B.2.N.g.9 - MYRICA GALE SATURATED SHRUBLAND ALLIANCE, IV.A.1.N.g.1 - CHAMAEDAPHNE CALYCVLATA SATURATED DWARF-SHRUBLAND ALLIANCE, IV.A.1.N.g.4 - EMPETRUM NIGRUM SATURATED DWARF-SHRUBLAND ALLIANCE, V.A.5.N.k.36 - CAREX STRICTA SEASONALLY FLOODED HERBACEOUS ALLIANCE, V.A.5.N.k.39 - CALAMAGROSTIS CANADENSIS SEASONALLY FLOODED HERBACEOUS ALLIANCE, V.A.5.N.m.7 - CAREX LASIOCARPA SATURATED HERBACEOUS ALLIANCE, AND/OR V.A.7.N.o.3 - CHAMAEDAPHNE CALYCVLATA / CAREX LASIOCARPA SATURATED SHRUB HERBACEOUS ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Alnus incana - Cornus sericea / Clematis virginiana Shrubland (CEGL006158), Myrica gale - Spiraea alba - Chamaedaphne calyculata Shrubland (CEGL006512), Kalmia angustifolia - Chamaedaphne calyculata - (Picea mariana) / Cladina spp. Dwarf-shrubland (CEGL006225), Empetrum nigrum - Gaylussacia dumosa - Rubus chamaemorus / Sphagnum spp. Dwarf-shrubland (CEGL006248), Chamaedaphne calyculata / Eriophorum virginicum / Sphagnum rubellum Dwarf-shrubland (CEGL006513), Carex stricta - Carex vesicaria Seasonally Flooded Herbaceous Vegetation (CEGL006412), Calamagrostis canadensis - Scirpus spp. - Dulichium arundinaceum Herbaceous Vegetation (CEGL006519), Carex (lasiocarpa, utriculata, canescens) Herbaceous Vegetation (CEGL006521), AND/OR Carex (oligosperma, exilis) - Chamaedaphne calyculata Shrub Herbaceous Vegetation (CEGL006524)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: III.B.2.N.e - Seasonally flooded cold-deciduous shrubland, III.B.2.N.g - Saturated cold-deciduous shrubland, IV.A.1.N.g - Saturated needle-leaved or microphyllous evergreen dwarf-shrubland, V.A.5.N.k - Seasonally flooded temperate or subpolar grassland, V.A.5.N.m - Saturated temperate or subpolar grassland, AND/OR V.A.7.N.o - Saturated temperate or subpolar grassland with a sparse broad-leaved evergreen shrub layer

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: TG

Entity_Type_Definition: Tidal Marsh

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: V.A.5.N.n.2 - TYPHA (ANGUSTIFOLIA, DOMINGENSIS) TIDAL HERBACEOUS ALLIANCE AND/OR V.A.5.N.n.11 - SPARTINA PATENS - (DISTICHLIS SPICATA) TIDAL HERBACEOUS ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Typha angustifolia - Hibiscus moscheutos Herbaceous Vegetation (CEGL004201) AND/OR Spartina patens - Distichlis spicata - (Juncus gerardii) Herbaceous Vegetation (CEGL006006)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: V.A.5.N.n - Tidal temperate or subpolar grassland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SMG

Entity_Type_Definition: Graminoid Shallow Marsh

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: V.A.5.N.k.36 - CAREX STRICTA SEASONALLY FLOODED HERBACEOUS ALLIANCE, V.A.5.N.k.39 - CALAMAGROSTIS CANADENSIS SEASONALLY FLOODED HERBACEOUS ALLIANCE, V.A.5.N.l.3 - JUNCUS MILITARIS SEMIPERMANENTLY FLOODED HERBACEOUS ALLIANCE, V.A.5.N.l.9 - TYPHA (ANGUSTIFOLIA, LATIFOLIA) - (SCHOENOPLECTUS SPP.) SEMIPERMANENTLY FLOODED HERBACEOUS ALLIANCE, AND/OR V.A.5.N.m.7 - CAREX LASIOCARPA SATURATED HERBACEOUS ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Carex stricta - Carex vesicaria Seasonally Flooded Herbaceous Vegetation (CEGL006412), Calamagrostis canadensis - Scirpus spp. - Dulichium arundinaceum Herbaceous Vegetation (CEGL006519), Juncus militaris Herbaceous Vegetation (CEGL006345), Typha (angustifolia, latifolia) - (Schoenoplectus spp.) Eastern Herbaceous Vegetation (CEGL006153), AND/OR Carex (lasiocarpa, utriculata, canescens) Herbaceous Vegetation (CEGL006521)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: V.A.5.N.k - Seasonally flooded temperate or subpolar grassland, V.A.5.N.l - Semipermanently flooded temperate or subpolar grassland, AND/OR V.A.5.N.m - Saturated temperate or subpolar grassland

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Detailed_Description:

Entity_Type:

Entity_Type_Label: OWM

Entity_Type_Definition: Open Water - Deep Marsh Complex

Entity_Type_Definition_Source: map class - project derived

Attribute:

Attribute_Label: Alliance

Attribute_Definition: V.A.5.N.1.2 - ELEOCHARIS SPP. - ERIOCAULON AQUATICUM

SEMIPERMANENTLY FLOODED HERBACEOUS ALLIANCE, V.A.5.N.1.9 - TYPHA (ANGUSTIFOLIA, LATIFOLIA) - (SCHOENOPLECTUS SPP.) SEMIPERMANENTLY FLOODED HERBACEOUS

ALLIANCE, V.A.5.N.1.16 - SCHOENOPLECTUS ACUTUS - (SCHOENOPLECTUS

TABERNAEMONTANI) SEMIPERMANENTLY FLOODED HERBACEOUS ALLIANCE, V.C.2.N.a.17 -

VALLISNERIA AMERICANA PERMANENTLY FLOODED TEMPERATE HERBACEOUS ALLIANCE,

AND/OR V.C.2.N.a.102 - NYMPHAEA ODORATA - NUPHAR SPP. PERMANENTLY FLOODED

TEMPERATE HERBACEOUS ALLIANCE

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Association

Attribute_Definition: Eriocaulon aquaticum - Lobelia dortmanna Herbaceous Vegetation (CEGL006346), Typha (angustifolia, latifolia) - (Schoenoplectus spp.) Eastern Herbaceous Vegetation (CEGL006153),

Schoenoplectus (tabernaemontani, acutus) Eastern Herbaceous Vegetation (CEGL006275), Vallisneria

americana - Potamogeton perfoliatus Herbaceous Vegetation (CEGL006196), AND/OR Nuphar lutea ssp.

advena - Nymphaea odorata Herbaceous Vegetation (CEGL002386)

Attribute_Definition_Source: NatureServe International Vegetation Classification

Attribute_Domain_Values:

Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute_Label: Formation

Attribute_Definition: V.A.5.N.1 - Semipermanently flooded temperate or subpolar grassland AND/OR V.C.2.N.a

- Permanently flooded temperate or subpolar hydromorphic-rooted vegetation

Attribute_Definition_Source: FGDC Vegetation Classification Standard

Attribute_Domain_Values:

Unrepresentable_Domain: Area is always zero for point coverages. Values are automatically generated.

Distribution_Information:

Distributor:

Contact_Information:

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Resource_Description: Spatial database point coverage showing locations of accuracy assessment sites that were used for the Acadia National Park Vegetation Mapping Project.

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Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information:

Format_Name: HTML

Digital_Transfer_Option:

Online_Option:

Computer_Contact_Information:

Network_Address:

Network_Resource_Name: <http://biology.usgs.gov/npsveg/acad/index.html#accuracy_assessment_info>

Fees: None

Metadata_Reference_Information:

Metadata_Date: 20031031

Metadata_Review_Date: 20060828

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator

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Metadata_Standard_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1: Biological Data Profile, 1999

Metadata_Standard_Version: FGDC-STD-001-1998

Metadata_Extensions:

Online_Linkage: <http://biology.usgs.gov/fgdc.bio/bionwext.txt>

Profile_Name: Biological Data Profile FGDC-STD-001.1-1999